

EXHIBIT 5

Navigator Team Product Release History

Authors: Ron Conescu, John Stefanik.

1. Navigator 3.00b1, 11/15/96

First release for the John Stefanik/Ron Conescu Navigator team. This release was never deployed to the field because of various, unrelated delays in testing new versions of Interplay, PTV OS, and IMS.

1.1. *Common App*

This is a common code library and toolset for all Navigator applications. It is inserted into the system path and locked in core (memory).

1.2. *Startup App*

This is a single page application that is downloaded first before any other application. Its primary job is to display a wait screen and load the Navigator. It also initializes some variables.

1.3. *Navigator app*

This contains all of the menu screens associated with the Navigator. These menu screens allow the user to select and purchase a video. However, the actual viewing of the video is performed by the VOD and NVOD applications.

1.4. *VOD App*

This is the initial release of the single page application responsible for playing VOD videos. It also handles VCR controls -- ff, rw, pause, play -- and VCR limits -- only allows user to watch & muck around with movie for 150% its total length.

1.5. *NVOD App*

This application plays an NVOD video. It also displays the countdown banner and Prevue channel that appear before the video begins.

1.6. Ads App

This acts as a container for the ad bitmaps that appear on various menu screens. Each page of the ads app stores a single bitmap. The ad application contains no code.

2. Navigator 3.20, 11/21/96

This release introduced several new features including clickstream, support for the Prevue app, holiday graphics, and revised CCV screens. This Navigator was deployed on the field, but was immediately removed from the field when a serious problem caused the NVOD countdown banner to hang on some boxes.

2.1. Startup App

- Added Prevue application launch. (Ron)
- Fixed what happens when TV/iTV key is pressed during startup. (Ron)

2.2. Common App

- Added clickstream capability that is accessible via secret code. (Ron and John)
- Changed secret codes from 3 digits to 5 digits (John)
- Fixed error handling during Help video and Whats New Video (John)
- Improved performance of Quit/Resume box (John)
- Improved ad performance (John)
- Accepts new data from Send Order Now -- rating and duration info (John)
- Changed IMS timeout from 60 seconds to 40 seconds (John)

2.3. Navigator App

- Added clickstream capability. (John)
- Added holiday graphics (John)
- Revised CCV Backgrounds (reduced in size 40%-60%) (John)
- Removed Shopping from Main Menu (John)

2.4. VOD

- Added clickstream capability. (Ron)
- Can display timer information by pressing the "Display" button. (Ron)

2.5. Ads App

- Replaced Sony ad with new one that included "www.sony.com" (John)

3. Navigator 3.21, 12/6/96

This release was supposed to fix a problem causing the NVOD countdown banner to hang at :03, :02, or :01 on the field (production) system. However, the fix was not successful, and the software was never deployed. The other changes made to the Navigator and VOD apps went on to become part of Navigator release 3.22.

3.1. Common App

- At request of marketing, "iTV waking up..." message changed to "Reconnecting iTV..." (John)
- "iTV going to sleep" message changing to "Disconnecting iTV" (John)
- "Returning to regular TV..." message changed to "Leaving iTV..." (John)

3.2. Navigator App

- Unsuccessfully tried to fix problem preventing the user from pressing ENTER and buying a video during a preview for a VOD-only video. (John)

3.3. VOD

- Changed "INFO" button timeout to 10 seconds, not 60 seconds. (John)

3.4. NVOD

- Unsuccessfully tried to fix a bug that caused the NVOD countdown banner to hang at :03, :02, or :01 and prevented the NVOD video from playing. (John)

4. Navigator 3.21a1

4.1. Common

- Added currentServiceID stuff to commonSetup and imsServiceReply, and created currentServiceID(). (Ron)

5. Navigator 3.22, 12/6/96

This release fixed the NVOD countdown problem that version 3.21 failed to fix. The problem was first discovered in Navigator 3.20 on the field.

5.1. Navigator App

- Fixed problem preventing the user from pressing ENTER and buying a video during a preview for a VOD-only video. (John)

5.2. NVOD

- Fixed bug that caused the NVOD countdown banner to hang at :03, :02, or :01 and prevented the NVOD video from playing. (John)

6. Navigator 3.23, 12/22/96

This release tried to fix a STB reset problem that occasionally occurred after pressing ENTER to reconnect the Navigator while on the Main Menu. Pressing ENTER not only reconnected the Navigator, but also did the following...

- Reconnected Navigator
- Change Service to "Root" (cause we're on the main menu)
- Change User to "Default" (so we can see all the video titles)
- Select "Movies" (remember that the "ENTER" key was pressed)
- Change Service to "Video" cause we've just selected Movies and entered video service

The change of service to "Video" seemed to be failing. It could be because we changed service to "Root" a second earlier. So version 3.23 created a special exception on the main menu, so that when the ENTER key was pressed after a reconnect, the Main Menu skipped doing its Change of Service to "Root". So the new sequence of events that occur when the ENTER key is pressed is as follows:

- Reconnected Navigator
- Change User to "Default" (so we can see all the video titles)
- Select "Movies" (remember that the "ENTER" key was pressed)
- Change Service to "Video" cause we've just selected Movies and entered video service

This seemed to improve performance, but subsequent versions of the Navigator came up with a better solution.

6.1. Navigator App

- Created a special exception on the main menu, so that when the ENTER key was pressed after a reconnect, the Main Menu skipped doing its Change of Service to "Root".

7. Navigator 3.24, 12/30/96

This release tried to take version 3.23 one step further, by inserting a 1 second delay between when the Navigator did its reconnect and when other IMS activities such as when a Change of Service took place. This version also locked the VOD and NVOD apps in core because of reported problems of box resets occurring after a PIN was entered. (In previous versions, the Navigator did a page fetch for both the VOD and NVOD apps after the PIN was entered.)

7.1. Common App

- Inserts a small delay after wakeupNavigator (reconnect) occurs and before "openPage" is sent to Main Menu

7.2. Startup App

Locks VOD and NVOD pages from VOD and NVOD apps in core.

8. Navigator 3.25, 12/31/96

In version 3.24, after performing a TV/iTV switch to analog from a "movies menu" and then a switch back to interactive, selecting a movie category failed. In other words, the Navigator could not fetch video titles after a TV/iTV switch out of and then back into the Navigator.

The problem was that the Navigator was still in the "Root" service (instead of "Video" service) when it tried to fetch the video titles from the IMS. Why? Because, as it turns out, the IMS resets the current service to "Root" whenever you do a Session Reconnect after a TV/iTV switch back into the Navigator. However, the Navigator still thought the service was "Video" so it didn't even bother sending a change of service request. The reason this problem appeared in 3.24 and not earlier versions was that version 3.24 bypassed the main menu's attempt to change the service to "Root" when the ENTER key was pressed to reconnect the session. This change of service to "Root" made sure the Navigator

was in sync with the IMS who had been assuming that the service was Root on a re-connect.

8.1. Common App

Resets the internal state property #IMSCurrentService to "Root" whenever a disconnect occurs.

8.2. Navigator App

Removed code added in version 3.23 that skips change of service to "Root" when ENTER key is pressed to reconnect session.

9. Navigator 3.30, 1/8/97

Major changes include removal of holiday graphics, changes to movie categories, addition of secret codes for Sonja Gonzalez, and new debug displays.

9.1. Common App

New debug displays added for secret codes.

- DebugVersion - Now prints out versions for ALL applications
- DebugStatus - Prints out status of internal state properties.
- DebugMemory - Prints out pages in memory for Common, Navigator, and Ads apps

Other changes include:

- Clickstream messages no longer sent for ads when disconnected
- Secret codes added to turn ads and debug messages on and off
- Secret code added to turn off VCR limits
- Secret code added to add "PENDING" category to Navigator

9.2. Navigator

- Holiday graphics removed
- "Last Chance" and "Romance" categories added
- "Anytime TV", "Speciatly Video", and "Strictly Adult" categories deleted
- Secret code added so Sonja can turn off VCR limits
- Secret code added so Sonja can access "Pending" category
- Clickstream messages now include quotation marks around menu names

- Category not available now returns to previous screen
- "Movie available anytime" changed to "Video available anytime"
- Fixed bug preventing titles such as "Funny Thing, A" from being transposed on marquee screen to "A Funny Thing"

9.3. VOD

- Parameter added to setupPage to turn VCR limits on and off. Function setupPage modified appropriately.
- Disabled debugging feature that caused DISPLAY key to display debug information.

9.4. Secret Codes

The new secret codes are as follows:

41401 - VERSION REPORT

Now lists version numbers for *ALL* Navigator-related applications.

41402 - STATUS REPORT

Displays current state of Navigator. (Uses internal state variables.)

41403 - MEMORY REPORT

Lists IDs of pages currently in memory. (Only lists pages for Common, Navigator, and Ads applications.)

41405 - CLICKSTREAM

Turns clickstream on or off. In version 3.30, default is OFF.

41421 - MENU ADS

Turns menu ads on or off. Default is ON.

41422 - DEBUG OUTPUT

Turns debug statements on or off. Default is ON.

41435 - VCR LIMITS

Turns VCR limits on or off. Default is ON.

41436 - "PENDING" CATEGORY

Activates Pending category in Movie Categories menu.

41498 - INACTIVITY TIMEOUT

Triggers the inactivity timeout that disconnects the session.

41499 - FATAL ERROR

Triggers a fatal error. Two fatal errors will quit the Navigator.

10. Navigator 3.31, 1/8/97

10.1. Common App

When switching to analog, the Common App now informs the PowerTV Surfer App when we've finished switching. Modified function switchToContinue4(), the header comments for switchToContinue(), and added a function tellSurferSuspendOK(). – Ron Conescu

10.2. Startup

Just changed the version number to 3.31 so it would show up on the IMS version report.

11. Navigator 3.40, ???

11.1. Common App

Turned on clickstream by setting Common App property #sendClickOn to TRUE.
- John Stefanik

12. Navigator 3.50, 3.51

12.1. Common App

- Scrolling List Changes: Made scrolling list code simpler and more efficient. In this version, call Scrollinit() to setup the scrolling list passing it the name of any arrow hilites and "more choices" objects. These are stored away in the common app for use whenever you call ScrollDown, ScrollUp, etc. Also, changed where scrolling list properties are stored. The properties #lineItems and #lineSelected are now found on the scrolling list box object instead of the parent page. This simplified the code somewhat.
- Ad Playlist Differentiation: The AdStart function now takes an optional parameter that is the name of a playlist stored in an Ad Application property. Use this paramter to bypass the default playlists stored in the page property #adPlaylist. This also allows you to call different playlists depending on the state of the page. For instance, on the Titles Page, you could have different ads play depending on the category shown -- thus the name, playlist differentiation. (NOTE: This feature is not actually used in this release.)
- Name of whats new video changed from "whatsnew496" to "whatsnew"

12.2. Startup App

- Fixed bug causing dialog box to appear behind ad.

12.3. Navigator App

- NVOD price shown even if movie is not scheduled (for Sonja)
- PTR 1512: Fix made to way Facts text is displayed
- Showscape item added to main menu (accessible via secret code 41433??)
- Clickstream video "string" made consistent for VOD, NVOD, and Preview. Now passes string, not ID
- v3.51 Fix made to page Main Menu to start ads when returning back into iTV before the session is established. The switchToInteractive handler is called when returning back into iTV, and this handler starts the ads.
- v3.51 Change made to adStart(self) function calls to remove the self parameter since the adStart() parameter list expects the ad playlist, then the page as parameters, so the adStart() calls in the app Navigator all default to the current page. This change was made to almost every page of the Navigator that shows ads.

12.4. NVOD App

- The NVOD App was completely rewritten. The only part of Alan's code that remains are the routines used to do time conversion.
- PTR: Removed "you have already been billed for this video" from quit message during countdown screen
- Clickstream video "string" made consistent for VOD, NVOD, and Preview. Now passes string, not ID.

12.5. VOD App

- PTR 1532: Hourglass now appears upon quitting VOD video
- PTR 1513: Hourglass now appears before starting Preview or NVOD video
- PTR 1536: VOD video is not paused when quit/resume box is displayed and VCR timer

12.6. Ad App

- Added playlist properties for playlist differentiation. (Not used at moment.)

13. Navigator 3.52

13.1. Common App

-page "video" setup_3() handler

Modified to create message schedule to call setup_4(). This is a "kludge" that fixes the preview bug, PTR 1620, where the STB resets during a preview video if a direct entry method was used to begin the preview video. This is done so that the calling stack to IP is ended and a new stack is started. Apparently, the bug is a stack overflow problem in IP.

13.2. Startup App

- No changes made.

13.3. Navigator App

- page "video Marquee"/goPreview() handler

Modified to create a message schedule to call goPreview2(). This is a "kludge" that fixes the preview bug, PTR 1620, where the STB resets during a preview video if a direct entry method was used to begin the preview video. This is done so that the calling stack to IP is ended and a new stack is started. Apparently, the bug is a stack overflow problem in IP.

13.4. NVOD App

-No changes made.

13.5. VOD App

-No changes made.

13.6. Ads App

-No changes made.

14. Navigator 4.00

14.1. Common App

-SwitchToContinue_4() contained switchToContinue_suspendOK() call to the surfer app, which put IP in the background. This call, switchToContinue_suspendOK() call has been moved to switchToContinue_3() per Ron Conescu.

- PTR 1620: Previews, What's New and Help videos no longer reset when direct entry methods are used to start the videos.

- Previews, What's New and Help video can now only be exited by the TV/iTV, Main Menu, Stop and Backup keys.

- In changePage() hourGlassHide(thePage) : Added thePage to the first hourGlassHide() call after the unlockScreen() statement. It was necessary because the hour glass was not disappearing after a page change. (Should not be necessary).

- adShowIt() enhanced with logic for Ad Hot Links. AdShowIt() determines for each ad it displays, if the ad should also display an Ad Hot Link prompt bitmap. And if so show the prompt, else hide it.

- adStart() enhanced with Ad Playlist Differentiation logic. AdStart() determines whether an alternative playlist is defined for the given current page or category. If so, use the alternative playlist as thePage.#adPlayList.

-adStop() modified to hide the Hot Link viewer so that when the ad stops, the Hot Link prompt object is hidden simultaneously.

- adResume() modified to show/not show Hot Link prompt when ads are resumed.

- Ad Hot Link routines added to support Hot Link functionality are:

 processHotLink(): Determines the type of Hot Link for the ad and takes the viewer to that destination.

getHotLinkDest(): Given the vendor, determines the actual location to go to.

HotLinkOn(): Given the vendor, determines if the Hot Link is enabled or not.

videoHotLinkDia(): Prepares for viewing a video, then calls the video routines.

stripQuotes(): Prepare the vendor name to be unquoted and one word.

startBKeyFlash(): B key on the Hot Link prompt starts flashing.

stopBKeyFlash(): B key on the Hot Link prompt stops flashing.

toggleBKeyFlash(): B key on the Hot Link prompt toggles flash.

- Branded Environments routines added to support BRE functionality are:

showScapeHiStart(): Start flashing the “ShowScape” highlight on the Showcase background page.

showScapeHiStop(): Stop flashing the “ShowScape” highlight on the Showcase background page.

showLogo(): Show the vendor logo over the ShowScape logo on the video subCategories page.

hideLogo(): Hide the vendor logo over the ShowScape logo on the video subCategories page.

- page “video” setup_4() cleans up the message schedule started in setup_3().

- page “video” keyPressed() stores the last key pressed in the self.#lastKey property. This key is used for ad_BRE_resp key that must be returned to clickStream.

- page "video" playAtEnd() is called at the end of play of a video. PlayAtEnd() reads the #lastKey and sends it to the previous page. If the type of video is "BRE" then show the "Thank you" message to the viewer. Send playAtEnd_2() signal to close the dialog and clean up the message schedule.

14.2. Startup App

- Changed bitmap on the Startup page from Nissan to Delta.

- ObjectsToLock property was changed to lock the Hot Link prompt bitmap, instead of the page "video Facts" of app "Navigator". This was done because when both objects were locked in core, the Navigator (Startup app) could not finish the downloads, due to a "theoretical" lack of memory. So an arbitrary decision to release the video Facts page and lock the Hot Link prompt bitmap.

14.3. Navigator App

- keyPressed() handler on every page handles the "B" key which calls processHotLink().

- Uncommented goShowScape() handler to work when item 7 of the Main Menu is selected.

- setClock(0) added to video "Marquee" page, handler goPreview().

- goPreview_2() on "video Marquee" page cleans up the message schedule created in goPreview().

- Viewer "Hot Link" added to each page that displays ads, for the Hot Link prompt object.

14.4. NVOD App

- No changes made.

14.5. VOD App

- No changes made.

14.6. Ads App

- Added properties to support Branded Environments.

- John Stefanik
- Margaux Ridlehoover

15. Navigator 4.01

15.1. Common App

- Pass the Main Menu to the page "video" keyPressed () handler as a key to pass and close. This causes the dialog to close when Main Menu is pressed, and the key is passed to the page "video Preview" keyPressed () handler. The handler goMainMenu() handles the key. GoMainMenu() checks to see if the videoType is a BRE and if so, sends an end event BRE click, then changes page to the Main Menu. This fixes the bug found that when the INFO or a HOT LINK video is playing and the Main Menu key is pressed, the Navigator would go back to the previous screen, not the Main Menu.
- Removed the High Chime from the page "video" playAtEnd() function. This caused the High Chime sound to play even after leaving iTV, instead of the down Button click sound. This is thought to be an IP bug.

15.2. Navigator App

- On the page "Facts", when the movies was a VOD only type, the INFO button didn't show the video, and didn't return the BUY button. Fixed in the INFO button of the keyPressed() handler of the page "Facts". The backgroundImage variable was not initialized.
- Removed Coke and State Farm ads from the Showcase Categories page, since the vendors are available on the menu.
- Added a GM BRE and a Hot Link to a GM video.

15.3. Startup App

- Removed all Nissan ads from all playLists.
- #objectsToLock - removed page "Nissan" added page "LewisClark" of app "Ads". Also added page "Showcase Background" to #objectsToLock.

15.4. ads App

- Added page Lewis and Clark for the Hot Link to the "GM Presents.." video.

15.5. NVOD App

- No changes

15.6. VOD App

- No changes

16. Navigator 4.01

16.1. Common App

- AdShowIt() modified to not use the “, PREV” extension on the fileame, when defining a custom link (or any other kind of link.)
- Altered the error message used for videoHelpDia_2() function.
- 3 Things to do to remove “Strictly Adult” category from the Categories page:
 1. Common app NumberSecret() code must change the “PENDING” category back to the 10th line of the page.
 2. Put the v4.01 bitmap back in on the page.
 3. Change the Video Categories page #lineItems to delete the “Strictly Adult” line item.